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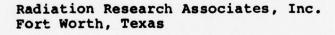
CALCULATIONAL PROCEDURE FOR

EVALUATING TIME- AND SPATIAL
DEPENDENT ENERGY DEPOSITION IN

AIR FOR ANISOTROPIC NUCLEAR SOURCES:

Vol. IV, SECONDARY GAMMA-RAY DATA

FOR ISOTROPIC NEUTRON SOURCES



2 April 1979



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AIR FORCE TECHNICAL APPLICATIONS CENTER HEADQUARTERS UNITED STATES AIR FORCE PATRICK AIR FORCE BASE, FLORIDA 32925

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sulting from neutron capture and inelastic scattering in air. The energy deposition data for line-beam sources and for point isotropic sources were found to compare favorably with similar data reported in the literature. The RENDER procedure was run utilizing energy deposition data from the conical source-data base for a 9-to-10-MeV gamma-ray source and the results of the convolution over source emission direction and time were found to be in good agreement with the input data, indicating that the RENDER procedure performs the time-and-angle convolution correctly.

Volumes II through IV of this report present tabulated data on the time dependent energy deposition in air versus range for neutron and gamma-ray point isotropic sources and for secondary gamma rays generated by point isotropic neutron sources. Also given in Vol. V are curve fit coefficients for use in computing the energy deposition in air versus distance and source emission angle for line beam sources of neutrons and gamma rays. Coefficient data are also given for secondary gamma-ray energy deposition by line beam neutron sources.

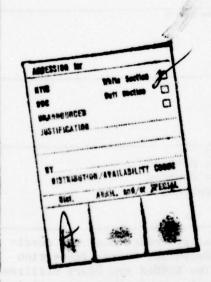


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I. INTRODUCTION

50

This is the fourth volume of a five-volume report which presents the results of an extensive parameter study on gamma-ray, neutron and neutron-produced secondary gamma ray energy deposition in a homogeneous medium of air ($\rho = 1.225 \times 10^{-3} \text{g/cm}^3$) and describes a computer procedure (RENDER) which was developed to utilize the parametric data when computing the time and spatial distributions of the energy deposition in air for anisotropic nuclear sources.

This volume presents calculated time dependent secondary gammaray energy deposition data for point isotropic neutron sources emitting
radiation in the source energy intervals listed in Table I. The radial
intervals used in storing the energy deposition data are given in Table II.
The delay time intervals used to store the energy deposition data are given
in Table III. The delay time is the time of energy deposition minus the
time of arrival of the uncollided radiation. All source neutrons were
emitted instantaneously by the source. The calculational methods used
to compute the energy deposition data are described in Vol. I of this
report.

The time dependent energy deposition data in units of keV m⁻³sec⁻¹/source neutron versus radial distance are given in Tables IV through XXII. The numbers at the bottom of each column in these tables is the total time dependent energy deposition (keV sec⁻¹/source neutron) occurring within 1500 meters from the source.

The time-integrated total secondary gamma-ray energy deposition data versus radial distance and source-energy interval are listed in Table XXIII for point-isotropic neutron sources. The units for the gamma-ray energy deposition data are keV m⁻³/source neutron. The energy deposition data given in Table XXIII can be converted to air kerma rate (exposure rate in air ($\rho = 1.225 \times 10^{-3} \, \text{g/cm}^3$) by multiplying the energy deposition data by 4.708×10^{-1} . The units of the resulting air kerma rate is rad hr⁻¹/source neutron sec⁻¹.

TABLE I. NEUTRON SOURCE ENERGY INTERVAL BOUNDS

Energy Interval (MeV)

0.001 - 0.00335

0.00335 - 0.0912

0.0912 - 0.0248

0.0248 - 0.0676

0.0676 - 0.184

0.184 - 0.303

0.303 - 0.50

0.50 - 0.823

0.823 - 1.353

1.353 - 1.738

1.738 - 2.232

2.232 - 2.865

2.865 - 3.680

3.680 - 6.070

6.070 - 7.790

7.790 - 10.0

10.0 - 12.0

12.0 - 13.5

13.5 - 15.0

TABLE II. RADIAL INTERVALS

Radial		terval
	(m)	
0	-	10
10	-	20
20	-	40
40	-	60
60	-	80
80	-	100
100	-	125
125	-	150
150	-	175
175	-	200
200	-	250
250	-	300
300	-	350
350	-	400
400	-	450
450	-	500
500	-	600
600	-	800
800	-	1000
1000	-	1200
1200	-	1500

TABLE III. BOUNDS OF DEPOSITION TIME INTERVALS USED IN SECONDARY GAMMA-RAY PROBLEMS

DEPOSITION TIME INTERVAL (µsec)

0 - 0.2

0.2 - 0.3

0.3 - 0.5

0.5 - 1.0

1 - 2

2 - 3

3 - 5

5 - 7

7 - 10

10 - 20

20 - 35

35 - 50

50 - 70

70 - 100

100 - 200

200 - 400

400 - 700

700 - 1000

1000 - 2000

2000 - 3500

3500 - 15000

15000 - 100,000

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.001 TO 0.00335 MeV TABLE IV.

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		000000000000000000000000000000000000000	. 000E
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6

TABLE IV. (Continued)

(keV m $^{-3}$ sec $^{-1}$ / source neutron)

1.000E-03 TO 3.350E-03 MEV SECONDARY GAMMAS DELAY TIME (SEC)

0.2	000000000000000000000000000000000000000	0
	000000000000000000000000000000000000000	. 000E
5-05 E-05	00000000000000000000000000000000000000	
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1.00E-05		0
0.5		000
		m m
		000.
90		00
		-
5.00E-	000000000000000000000000000000000000000	0
. 0		00
3.00E-06		0
VAL (METER	14444 000000000000000000000000000000000	DEPOSITION/S
		101

TABLE IV. (Continued)

 $(\text{keV m}^{-3}\text{sec}^{-1}/\text{source neutron})$

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CONDARY GAMMA	0.00 0.00 0.00	00000000000000000000000000000000000000	11
E-03 MEV SE	0E-04 2.00E-0		.0
TO 3	00		. 000E 00
1.000E-03	100		0 = 0
	A	14444000000000000000000000000000000000	DEPOSITIO

TABLE IV. (Continued)

(keV m⁻³ sec⁻¹/ source neutron)

GAMMAS	01		03
CONDARY GAN	02 0E	040/04004W040/060M888RC 040/40040W80W040/W040W8 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	ш
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3.350E	E C	0000	0
=	2.00E	B W4488880008870408080 6000488708487970808080 60004887088487878888	8.02
1.000E-03	0000	48444844000004400	7E 0
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			TOTAL ENERGY

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.00335 to 0.00912 MeV TABLE V.

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(keV

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			. 000E
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DE	04 06 07		0
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	. 20E		0
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TABLE V. (Continued)

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	source
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1	8
	(keV

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	3.50E		
		000000000000000000000000000000000000000	0
10	2.00E-05	0000000000000000000	.000E
MMAS	05		4
GA	0.05		56E
ONDARY	1.00E	WH	4.5
SEC	0.2	0000000000000000000	00
E-03 MEY	00	0000000000000000000	.000E
120 LAY	90	0000000000000000000	00
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8	3.00E-0		. 000
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		000000000000000000000000000000000000000	0511
	ZŒ I	404488041VV0000444V0880V	Y DEP
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			TOTAL ENERG

TABLE V. (Continued)

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source /	
sec_/	
(keV m	

3.350E-03 TO 9.120E-03 MEY SECONDARY GAMMAS DELAY TIME (SEC)

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	000000000000000000000000000000000000000	
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STAN		-
5		180
FRV	44446000000000000000000000000000000000	Y DEP
		TOTAL ENERG
		TY.
		10

TABLE V. (Continued)

(keV m⁻³ sec 1/ source neutron)

TOTAL	03 TO 9.120E-03	0E-03 2.00E-03 3.50E-03 1.50E-02 1.50E-02	00000000000000000000000000000000000000	DEPOSITION/SEC 8.152E 03 7.567E 03 6.123E 03 3.131E 0
				TOTAL EN

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.00912 TO 0.0248 MeV TABLE VI.

(keV m sec 1/keV of source energy)

DELAY TIME (SEC)

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	900		0
-	90	000000000000000000000000000000000000000	0
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	AL DISTAN	14444000000000000000000000000000000000	DEPOSITION
			101

TABLE VI. (Continued)

(keV m 3sc 1/source neutron)

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		0000000000000000000	0
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GAM	119	000000000000000000000000000000000000000	0
CONDARY		000000000400000000000000000000000000000	4.381
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E-02 MEV	mo.	000000000000000000000000000000000000000	. 000E
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TABLE VI. (Continued)

(keV m⁻³ sec -1/ source neutron)

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(Continued)	ource neutron)	03 - 1.50E-02 - 1.00E-0	ののはまたであるるななななないといるのではなるのであるないとののであるできないできます。	.087E 03 3.053E
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	9.120E-0	0E-03 2.	000004840000400008400 008048008000000000	5.965E 03
		RADIAL DISTANCE	444486447444444444444444444444444444444	DEPOSITI
				TOTAL

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.0248 TO 0.0676 MeV TABLE VII.

(keV m sec 1/source neutron)

DELAY TIME (SEC)

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RADIAL	40440000000000000000000000000000000000	Y DEPO
		TOTAL

TABLE VII. (Continued) (keV m sec 1/source neutron)

2.480E-02 TO 6.760E-02 MEY SECONDARY GAMMAS DELAY TIME (SEC)

	02	000000000000000000000000000000000000000	4
	3.50E-05	000000000000000000000000000000000000000	2.677E
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		000000000000000000000000000000000000000	0
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	1.00E-05	0000000000000000000	.000E
,	10	000000000000000000000000000000000000000	00
	00	000000000000000000000000000000000000000	. 000E
	90		00
	5.00E-06	00000000000000000000	.000E
-	0		00
	3.00E-06		0
	DI STANCE	44448000000000000000000000000000000000	DEPOSITION/SE
			1

19

TABLE VII. (Continued) (keV m⁻³ sec⁻¹/ source neutron)

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2.480E-02 TO 6.760	00		.000E 00
	06-0		9.604E 01
	STANCE	14440000000000000000000000000000000000	DEPOSITION
			101

TABLE VII. (Continued)

(keV m⁻³ sec⁻¹/source neutron)

02 TO 6.760E-02 MEV SECONDARY DELAY TIME (SEC)	00E-0	0047487794480468441	.024E 0
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	03 0E-03	00000000000000000000000000000000000000	366
2.480	IM	00000 + 00000 + 40	5,415E
	RADIAL DISTANCE	44440000000000000000000000000000000000	DEPOSITION
			TOTAL

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.0676 TO 0.184 MeV TABLE VIII.

(keV m sec 1/source neutron)

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TABLE VIII. (Continued)

(keV m⁻³ sec⁻¹/ source neutron)

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			4000
MAS		000000000000000000000000000000000000000	
GAMMA		000000000000000000000000000000000000000	
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TABLE VIII. (Continued)

(keV m 3 sec 1/ source neutron)

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CONDARY GAMMA	00 44 1	1 000000000000000000000000000000000000	
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-02 TO 1:840	0.05		1.038E 04
6.760E-	0E-0	00000	0
	DIAL DISTANCE TERVAL (METERS	11444000000000000000000000000000000000	DEPOSITION
			TOTAL

TABLE VIII, (Continued)

(keV m⁻³ sec⁻¹/source neutron)

		CONTROL OF THE PROPERTY OF T	
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CONDARY GAMMAS	000	00000000000000000000000000000000000000	. –
TIME (SEC)	50E-03 1.50E-0	0000004400000440000400 000040040040000400000 000000	2
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	INTERDAL (METERS)	44446000000000000000000000000000000000	DEPOSITION
			TOTAL ENERGY

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.184 RO 0.303 MeV TABLE IX.

	neutron)
	source
7	sec '
-3	E
	(keV

	10	000000000000000000000000000000000000000	0
	2.00E-06		. 000E
	9		
	10		
	90		00
ŝ	0.7		00
-	000 000		. 000E
LAY	0.7	000000000000000000000000000000000000000	00
96	I M	000000000000000000000000000000000000000	. 000E
	0.	000000000000000000	00
	.00E 00		0
	AL DISTANCE RVAL (METER	44440000000000000000000000000000000000	EPOSITI
			101

TABLE IX. (Continued)

(keV m⁻³ sec⁻¹/source neutron)

		000000000000000000000000000000000000000	
	. 50E-05	000000000000000000000000000000000000000	0
	5		-
	10		8E 0
AS	~		
Α A	-0.5	000000000000000000000000000000000000000	00
ONDARY G			0
SEC	0.2		00
S E	- w		
E-01	7.00E-0		0
030	90	000000000000000000	
840E-01 TO 3	MO I		
40	0		00
1.8	3.00E-06		0
	DISTANCE AL (METER	44444000000000000000000000000000000000	DEPOSITION
			TOTAL

(keV m⁻³sec⁻¹/source neutron)

	21	
140	100000044490000000000000000000000000000	59E 0
S 4.00E	10000000000000000000000000000000000000	48E 0
CONDARY GAMMA 2.00E-04-04	0.000000000000000000000000000000000000	
E-01 MEV SE 11.00.00.00.00.00.00.00.00.00.00.00.00.0		2.424E 03
7.00E-05		10
1.840E-01		.000E 00
RADIAL DISTANCE	44444444444444444444444444444444444444	TOTAL ENERGY DEPOSITION/SEC
		TOTA

TABLE IX. (Continued)

(keV m sec /source neutron)

E-01 MEV SECONDARY (1.50E-02 1.00E-01	00000000000000000000000000000000000000	2.820E 03
	MM	N44644846464646	6.442E 03
10	2.00E-03 3.50E-03	4WWW-MOUVU4U444W	6.467E 03
1.840E-01	.00E-		8.013E 03
	0-	H-1	ENERGY DEPOSITION/SEC
			TOTAL

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.303 TO 0.50 MeV TABLE X.

	-
	neutron)
	source
7	sec /
13	8
,	(keV

	10	000000000000000000000000000000000000000	
	00		82
		000000000000000000000000000000000000000	
	WO.		13
	90-	000000000000000000000000000000000000000	4
	5.00E-07	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6.969E
EC)	-0.7	000000000000000000000000000000000000000	0
TIME (S	00		
ELA	-07	000000000000000000000000000000000000000	00
0	F		. 000E
	007	000000000000000000000000000000000000000	00
			0
	TERVAL CHETER	40440800000000000000000000000000000000	DEPOSITI
			101

TABLE X. (Continued) (keV m⁻³sec⁻¹/source neutron)

		30	
100.00			4
	100	0000000000000000000000	•
		000000000000000000000000000000000000000	
	200		3
ARY	005 00E-0	00000V004W00VV4044609 1000004W4W8VW840+W0008 1000004WW4W00040W00V 1000004WW4M00000000000000000000000000000	.152
-01 MEV SE	7.00E_06_0	10000000000000000000000000000000000000	23E 0
ELA)	9	000000000000000000000000000000000000000	00
01 TO 5	00 E		10
030			
	100		694
	IAL DISTANCE ERVAL (METERS)	404 4 8 9 0 W V O W O W O W O W O W O W O W O W O W	DEPOSITION
			TOTA

TABLE X. (Continued)

	neutron)
	source
-3 -1	m sec /
;	kev

			9
SI	00 4 m	00000000000000000000000000000000000000	69E 0
AMMA	0.4		03
CONDARY G	90 4 m	00000000000000000000000000000000000000	1.994E
OF-01 MEY SEC	E-0	000000000000000000000000000000000000000	6.224E 03
EL A		000000000000000000000000000000000000000	0.1
3.030E-01 TO 5	00 10 m	000000000000000000000000000000000000000	9.185E
306	505	000000000000000000000000000000000000000	0
3.(OW		1.994E
	FRVAL (METER	44440000000000000000000000000000000000	DEPOSITION/S
			TOTA

TABLE X. (Continued)

(keV m⁻³sec⁻¹/source neutron)

CONDARY GAMMAS	02-1	0004400000000000000000000000000000000	ı w
OT MEY SE IME (SEC)	0E-03-	OOK OK 40/00/00 MO40/40/400/ MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM	4
TO 5:00	50E-0	0000k/4k0v4044&000404 0000v kw000v0vvvvv0vv4 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	
3.030E-01	0 = 0 3 OE - 0	00000000000000000000000000000000000000	7.182
	DISTANCE AL (METER	404 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DEPOSITION
			TOTAL

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.50 TO 0.823 MeV TABLE XI.

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-3 -1,	-
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-3 -1	m sec 1
-3 -1.	m sec 1
-3 -1	-

	2.00E-06-06	0000000400000040000 MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM	8.278E 03
	6-06 E-06		2.940E 04
	90	000000000000000000000000000000000000000	4
	5.00E-07		1.398E
EC)	0,	000000000000000000	00
TIME (SE	-07 00E		. 000E
LAY	0.	000000000000000000	0.0
DE	2.00E-07	0000000000000000000	. 000E
	0.7	000000000000000000000000000000000000	00
	.00E 00		. 000E
	DIAL DISTANCE TERVAL (METER	40440000000000000000000000000000000000	DEPOSITI
			T01

TABLE XI. (Continued)

	ou)
	neutr
	source
1	sec 1
-3	8
	keV

		000000000000000000000000000000000000000	10
	00	000000000400 440 V V V V V V V V V V V V	8.949E
	m	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
s	505 506 0		0
CONDARY GAMMA	05-10 0E-0	COOOWB4	2.866E 04
E-01 MEV SE	006-0	000400000NN0W0NNNHNO0	515
10 8.	0.06	000000000000000000000000000000000000000	52E
5.000E-01	100		1.120E 04
	DISTAN	404488540VV DVDVDVDVDVDDOOOOOOOOOOOOOOOOOOOOOOOO	RGY DEPOSITION
			TOTAL ENE

(Continued) TABLE XI.

(keV m sec 1/source neutron)

A CONTRACTOR

		35	
		000000000000000000000000000000000000000	03
		00000000000000000000000000000000000000	155
AS	4 H	0000000004 +000000040 mmmmmmmmmmmmmmmmmmmmmmmmmmmmm	63
ONDARY GAMM	00 10 10		8.027E 03
E T I M	90 4m	00000000000000000000000000000000000000	5.916E 03
10	00 00 00 00 00 00 00 00 00 00 00 00 00		2.342E 03
5.000E-01	-05 0E-	00000000000000000000000000000000000000	8.719E 03
	IAL DISTANCE ERVAL (METER	14440000000000000000000000000000000000	DEPOSITION

TABLE XI. (Continued)

(keV m sec /source neutron)

230E-01 MEV SECONDA	3.50E-03 1.50E-02 1.00E-0	00000000000000000000000000000000000000	3 5.345E 03 2.918E 0
TO 8:2	506-0		.598E 0
5.000E-01	00.3	00000000000000000000000000000000000000	.138E 0
	DISTANCE CMETER	44440000000000000000000000000000000000	DEPOSITION
			TOTA

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 0.823 TO 1.353 MeV TABLE XII.

(keý m sec / source neutron)

DELAY TIME (SEC)

	9	000000000000000000000000000000000000000	02
	2.00E-06		1.079E
-	9	000000000000000000000000000000000000000	02
	1.00E-06	8 W 40	1.064E
-	90	000000000000000000000000000000000000000	02
	5.00E-07	44 COCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	1.653E
-	07		8
	3.00E-07		. 000E
-	0.7	000000000000000000000000000000000000000	0
	2.00E-07		. 000E
The same	007	000000000000000000000000000000000000000	0
111111	.00E 2.00E	© 000000000000000000000000000000000000	2.707E
	ERVAL CHETE	44444444444444444444444444444444444444	DEPOSITION/
			W

TOTAL

38

TABLE XII. (Continued) (keV m⁻³sec⁻¹/source neutron)

NATION 1

39

TABLE XII. (Continued)

	neutron
	source
1	sec /
•	E
-	ceV

	000 000		w
S	004 00E-0	404004w44	046 0
ONDARY GAMMA	00E-0	0 w-mov-m-wine	34E 0
MEV SEC	0E-04-2.00E-04	00000MM040MM000MM0N	9E 0
TO 1,353	0.05		
30E	05 E-05		6 0E
	DISTANCE AL (METER	404 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DEPOSITI
			TOTAL

TABLE XII. (Continued)

(keV m sec 1/ source neutron

CONDARY GAMMAS	1.50E-02 1.00E-01	C444	2.643E 03
E 00 MEV SE	0E-03-	COO CO	0
-01 TO 1:353	-03 50E-0	00040400000404040040600	l W
œ !	F-03	8 09040460418	6E 0
	Wa.	14144000000000000000000000000000000000	DEPOSITION
			TOTAL

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 1.353 TO 1.738 MeV TABLE XIII.

(keV m sec 1/source neutron)

		000M4004MN/WN/00MNOWN	3.345E 04
	000		1.713E 04
	00	0000000000	3.373E 04
=	3.00E-07	000040000000000000000000000000000000000	2.844E 04
DELAY	07 0E-		2.445E 02
	.00E 00 .2	mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	2100000
	DIAL DISTANCE TERVAL (METER	40446000000000000000000000000000000000	0
			TOTAL

TABLE XIII. (Continued)

 $(\text{keV m}^{-3}\text{sec}^{-1}/\text{source neutron})$

42			
		000000004/w/0044094/v/0000000004/w/0044094/v/00000000000000000000000000000	25E 0
	505-0		31
CONDARY GAMMA	000	00000000000000000000000000000000000000	1.558E 04
E 00 MEV SE	0.06-0	004 W49414099017908041079	4
	00E-0	70000000000000000000000000000000000000	2.780E 04
	0 E - 0	CO000000000000000000000000000000000000	63E (
	ERVAL (METERS)	144460000000000000000000000000000000000	DEPOSITION
			TOTAL

TABLE XIII. (Continued)

(keV m sec 1/source neutron)

	43	
		031
100	1 000000000000000000000000000000000000	4.806E
1.00 1.4m	40000000000000000000000000000000000000	4.689E 03
ONDARY GAMMA 2.00E-04-	COOCOCOCOCO	4
1.00E-04-1	00000000000000000000000000000000000000	
00 TO 1:7	1 000000000000000000000000000000000000	6.754E 03
35		1.932E 04
STANCE (METERS)	404-680-900-000-000-000-000-000-000-000-000-0	POSITION
		TOTAL

TABLE XIII. (Continued) (keV m⁻³ sec⁻¹/source neutron)

CONDARY GAMMAS	02 0E-0	00000000000000000000000000000000000000	0
E 00 MEV SE TIME (SEC)	50E-0	000000000000000000	59E
00 10	50E-0		11
1.3536	6-03 00E-03	00000000000000000000000000000000000000	76E
	RADIAL DISTANCE	404 200 CULTURE A 4 10 400 CULTURE A 4 10 4 200 CULTURE A 4 10 5 10 CULTURE A 5 10 CU	POSITIO

TABLE XIV. TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 1.738 TO 2.232 MeV

(keV m $^{-3}$ sec $^{-1}$ /source neutron)

		43.	
	006-0	 и и	6E 0
	900	CCC\$CC\$CCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	~
	07-10 06-0		3.678E 04
E (SE	-07 00E-	004000000000000000000000000000000000000	2.966E 04
DELAY	006-0		1.159E 04
	.00E	000000000000000000000000000000000000000	2.57
	DIAL DISTANCE	14440000000000000000000000000000000000	RGY DEPOSITION
			. TOTAL ENE

TABLE XIV., (Continued)

(keV m⁻³sec⁻¹/source neutron

	3.50E-05-05-05-0	00000000000000000000000000000000000000	04 1.747E 0
AS	200	000000000000000000000000000000000000	1.280E
GAMM	000		10
E (S)	0 0 E - 0	10004/088/84/4/004/004/6/4/6/100004/8/4/6/8/6/4/6/8/6/4/6/8/6/4/6/4/6/4/6/	.51
00 TO 2:23	06-0 0E-0	1000 & L NO 4 IN U O D U O D U U 4 4 0 0 L 100 0 4 0 0 4 0 IV U V O U C 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2.509E 04
1,738E	3.00E-06 5.00E-0	494R044444400044444444600000000000000000	4.001E 04
	VAL (METER	44440000000000000000000000000000000000	DEPOSITION
			TOTAL

TABLE XIV. (Continued)

(keV m sec /source neutron)

41	
1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	. 990E 0
410000000000000000000000000000000000000	03
0 0 0 0 0 0 0 0 0 0	972E
0 10 10 100 100 100 100 100 100 100 100	923E
ロン	1E
	96
10.10000000000000000000000000000000000	16E 0
AS	DEPOSITION/
	TOTAL

TABLE XIV. (Continued)

	neutron)	
	source	
-3	l sec	
	keV n	

			• • • • • • • • • • • • • • • • • • •
	0 0 E - 0	00&044000477	10
MEV (SEC	505-0	000V 4800W 440004 R00V 04	22E 0
2:232E 00 DELAY TIM	50E-03 3.50		58E 03 4
1.738E	-03 0E-0	00000000CVVV4V400W400	E 03 5
	5) 1.0	44444000004440000000000000000000000000	ON/SEC 4.
	RADIAL DIS	444400WW44R080CU 4040800WV-0W0W0W000000 000000W0W0000000000000000	1 >
			TOTAL ENERG

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR US RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 2.232 TO 2.865 MeV TABLE XV.

The state of the s

	000	00 00 W	0 36
	1.00E-06-06		0
	5.00E-07 1.00E-06	Φυ ΝΦΝ 44 ΩΝΝ 4 ΦΩ 1 Θυ Ον 10 10 00000000000000000000000000000000	1.410E 05
Σ		000000000000000000000000000000000000000	9E 0
DELAY	07 0E	000000000000000000000000000000000000000	1.656E 05
	.00E 00 -07	0 4 H40 0000040000404000000000000000000	7E 0
	DIAL DISTANCE	44440000000000000000000000000000000000	DEPOSITION
			TOTAL

TABLE XV. (Continued)

(keV m⁻³ sec⁻¹/source neutron)

	000	00000000000000000000000000000000000000	0 30
	110		0
A S	100		0
AMM	40	000000000000000000000000000000000000000	03
CONDARY G	2.00E-04 4.00E	. On the contract of the contr	4.199E
SE C)	40	000000000000000000000000000000000000000	03
E S		D000004000Kv +W4 44v 0 404) D00004000004 +WK/KV/KV 0 D00000400 AV4W/Vov 0 0 0 0 MMMMMMMMMMMMMMMMMMMMMMMMMMM	
OI	1,00	1	. E
. 865 ELA)	10		0.4
00 10 2	110	44 GW4GWWV/CW0WW	1.415E
232E		00000000000000000000000000000000000000	0.4
2.	00.0	00000W0000	078E
	5.0	www.www.4440/w48	1.
	wa		SEC
	STAN	444 4444 404600000000000000000000000000	101
	AL DI	000000000000000000000000000000000000000	POSI
	ERA	000000000000000000000000000000000000000	DE
	AZ AZ	। नन	TOTAL ENERGY
			AL E
			101

TABLE XV. (Continued)

$(\text{keV m}^{-3}\text{sec}^{-1}/\text{source neutron})$

	005	00000049V 4W0900099VV00 00094W04V000W04444W4400 0004WWWWW00000000W09W09 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	1.642E 04
S	5 - 0 5	000 + W	2.269E 04
ONDARY GAMMA	005-05	1000042222000000440044800 1000842200040004482800000000000000000000	4.9336 04
MEME	0000	0004R04V09090R04804RV 00R4R40400009RVVVR8600 00004W0R00000VRVR00000 mmmmmmmmmmmmmmmmmmmmmmm	7.466E 04
00 TO 2:	0.000	COOW@DV & 40/000 4 W-MO 4 0 WD	6.778E 04
8	000 000	00000000000000000000000000000000000000	7.545E 04
	VAL (METERS)	1444 0000000000000000000000000000000000	ENERGY DEPOSITION/SEC
			TOTAL ENE

TABLE XV. (Continued)

 $(\text{keV m}^{-3}\text{sec}^{-1}/\text{source neutron})$

S
4
GAMMAS
2
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2.865E 00 MEV SECONDARY DELAY TIME (SEC)
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	1.50E-02 1.00E-01	00004000000000000000000000000000000000	63E 0
INE (SEC)	50E-0	4 9480000000444940000	366
DELA	110	844804444908048	95E 0
	-03 0E-0	40.04 4000000 4040000000000000000000000	92
	ERP	40448000000000000000000000000000000000	DEPOSITION
			TOTAL

A	TO	
SOM	865	
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SIT	MLY	
EPO	FOR	
Y D	UNI	
ERG	NG	
EN	ITI	
MY	MI	
4A-1	E	
AM	URC	
Y.	SC	
DAR	RON	
CON	EUT	
SE	CN	
TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A	POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 2.865 TO	
SND	JTR(1
EPI	IS	.680 MeV
E-1	IN	980
TIN	POI	3.6
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	8-0 00		0
	E-07	04/11 R HHP A AN OON/VOOKONOOHORNOOOO OHWAROOOOAHOROOOOOO IIIIIIIIIIIIIIIIIIIIIIIIIIIII	
DELA	00	00000000000000000000000000000000000000	0
	.00E 00.2	0	1.122E 06
	DIAL DISTANCE TERVAL (METER	14440000000000000000000000000000000000	DEPOSITION/S
			TOTA

TABLE XVI. (Continued)

(keV m 3sec /source neutron)

	005 00E-0	00000000000000000000000000000000000000	1.675E 04
S	05-10 06-0	004&40044006000460044006000000000000000	4.631E 04
CONDARY GAMMA	5-0 E-0	COUNTUMMWORVAWOOG4 90000	1.979E 05
E DO MI	0.0E-0	10000000000000000000000000000000000000	5.262E 05
00 10	0.00	OCWW-40W4 04 PGOUV0WW008	6.036E 05
.2	E-06 00E-0	OUH® 084 44 OV W 4 QW C 4 4 UV V O C C C C C C C C C C C C C C C C C	6.565E 05
	STANCE (METERS)	44444000000000000000000000000000000000	P0S111
			TOTAL

TABLE XVI. (Continued)

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	000		.037E
	10	000000000000000000000000000000000000000	03
S	4 H		N
M M	110		0
ONDARY	100		w
EC.	110		03
S	4 M		•
w	20.	000004W004W0WWWWWW	4.7
BOE A		000000000000000000000000000000000000000	3
3.6 DEL	110		•
E 00 TO	110	8448444446446744674677	0
65	. 0	000000000000000000000000000000000000000	03
2	WO!	OO	10
	5.00	 	6.6
	ANCE	44444000044460000000000000000000000000	
	IST	ਜਜਜ 	
	AL	000000000000000000000000000000000000000	EP
		11111000044000000000000000000000000000	-
			TOTAL ENERG
			TAL
			10

TABLE XVI. (Continued)

(keV m⁻³ sec⁻¹/source neutron)

2.865E 00 TO 3.680E 00 MEY SECONDARY DELAY TIME (SEC)	02 0E-0	000/004480400400400404	80
	0E-03 1.50E-02		36
	003 0	04	893E 0
	06-03	000000000000000000000000000000000000	71
	RADIAL DISTANCE	404 200 000 000 000 000 000 000 000 000	DEPOSITI
			TOTAL

0100H00HHHHHKKWMWMMM4

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 3.680 TO 6.070 MeV TABLE XVII.

 $(\text{keV m}^{-3}\text{sec}^{-1}/\text{source neutron})$

	10		0
	90 00	0004 0/000 0/0000000000000000000000000	
		0000-40000000000004-11-00	452
	300	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2
	2.(
		00m0040004400mmmm4000	
		<u>ատաաաատատաատաատասաատա</u>	
		OOM+404000000000000000000000000000000000	
	2	- 1000000000100000000000000000000000000	
			2
		000044404400M0W444400	_
	10	000000000000000000000000000000000000000	0
	04 06 07	<u>កោកកាកាកាកាកាកាកាកាកាកាកាកាកាកាកាកាកាកា</u>	2E
	0.		60
	60	0 m 2 4 m 4 m 6 4 m 6 m 6 4 m 6 m 6 4 m 6 m 6	
	5		
~	7	00440004480088000810044	1
EC		000000000000000000000000000000000000000	0
	00 E		2E
		00000000000000000000000000000000000000	m
Y.	200	שארט שמשמשאר האדי	5
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A	1		1
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0		0 <i>000 </i>	OE
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-	90	NUM4 NW 4 4 617W	3
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	AZ I		
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			E S
			_
			TOTAL ENERG
			10

TABLE XVII. (Continued)

(keV m⁻³ sec⁻¹/source neutron)

3.680E 00 TO 6.070E 00 MEY SECONDARY GAMMAS	E-06 7.00E-06 1.00E-05 2.00E-05 3.50E-05 5.00E-05		7 1.206E 07 5.278E 06 1.687E
	.00E-06	00000000000000000000000000000000000000	.603E
3 9	ERVAL (METER	14/14/08/08/44 & 08/05/09/09/09/09/09/09/09/09/09/09/09/09/09/	POSITI
			TOTA

59

TABLE XVII. (Continued)

	neutron)
	source
-	sec /
1	E
	(keV

			20
S	0 E	00000000000000000000000000000000000000	#
	0 E - 0	44 6WX/V-4 000000000000000000000000000000000000	2E 0
CONDARY GAMMA	E4-	C0000000044V040V4V0	W
6.070E 00 MEV SEC)	0 0 E - 0	000000000000000000000000000000000000	
	005		42
	E-05 00E-0	000N0800000N4N401401401441 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	2.348E 04
	VAL (METER	144460000000000000000000000000000000000	DEPOSITION
			TOTAL

TABLE XVII. (Continued)

(keV m⁻³ sec⁻¹/source neutron)

			• • • • • • • • • • • • • • • • • • •
ONDARY GAMMAS	005-0	00-10-10-10-10-10-10-10-10-10-10-10-10-1	5E 0
E OO ME	508-0	0000000140700 4044 WV 200 100000000000000 47 0000 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	1.609E 03
00 TO 6:070	50E-0		
3.680E	E-03	0 1 9 9 8 8 9 8 9 9 9 9 9 9 9 9 9 9 9 9 9	2.715E
	DISTANCE L (METER	44440000000000000000000000000000000000	DFPOSITION
			TOTAL

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 6.070 TO 7.790 MeV TABLE XVIII.

(keV m⁻³ sec⁻¹/source neutron)

	10	000000000000000000000000000000000000000	ē
	00		2
	2.		
	000		5E
	1.00E	44400400000400400404	1.2
	.00E-07	0 1 8 8 1 4 8 0 1 10 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1.453E 08
DELAY TIME (-07 00E-0	04004F 65 4F0FV 5 450F0 640	.103E 08
	00E-0	000000000400044000000 10000000000000000	.793E 07 1
	000 2.0 E-07 2.0		0
		440 0 4448844804R	1.06
	STANCE	44444444444444444444444444444444444444	1 I ON
	IAL DERVAL	44468040V 0V0V0V0V00000000000000000000000000	DEP
			TOTAL

TABLE XVIII. (Continued)

(keV m⁻³ sec⁻¹/source neutron)

62	
1001	244004W00410 240W040V0014 2000VV0000014 3100000000011
10 WRV-WATHAU 10W	20-00-40-00-10-20-00-10-20-20-20-20-20-20-20-20-20-20-20-20-20
0 10 1 1 1	4004W44010 0004W4W1000010 01400W00440W1W
	00440000000000000000000000000000000000
0 10 1 WW4RV004HV0	
1	01110001W141010
ARI 000000000000000000000000000000000000	11111111111111111111111111111111111111
	T01AL

TABLE XVIII. (Continued)

neutron)
source
sec-1
' E
keV

		000000000000000000000000000000000000000	0
	100		965E
	7.0	であらびアレン	
	0.4	1000000000000000000000000000000000000	0
	14m	000000000000 +0 040740	0 6E
S	4.00	ままちゃてらます	-i
M M	110	 00000000000000000000000000000000000	0
NDARY GA	100	4848 6784	89
EC	4	 00000000000000000000000000000000000	03
-	000	1000000004000WWWW4W00V	895
NO T	1.00E	8404440484044 0000000000000000000000000	-
00 TO 7.790	005-04	100000 N4 00 N N N N V V 00 4 N 00 00 1	42E 0
.070E	505		_
•			1.472E
	TANCE		0
	ADIAL DI	404 080 000 000 000 000 000 000 000 000	Y DEPOS
	α⊷		NERG
			TOTAL E

TABLE XVIII. (Continued)

	neutron)
	source
	sec /
•	M V
	(keV

70E 00 TO 7.790E 00 MEY SECONDARY DELAY TIME (SEC)	02 1.50E-02	0000000000000000000000000000000000000	8.773E 0
	500 50E	0047044060000000404404 00040040000440004 0040400000040000000000	5E
	00 E	4/N-#V/U/U/U/NA/Q@QN&4	.443E 0
	0 E - 0		2.031E
	DISTAN L (MET	14440000000000000000000000000000000000	RGY DEPOSITION/
			TOTAL ENE

TABLE XIX. TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS
RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING
UNIFORMLY IN THE ENERGY INTERVAL FROM 7.790 TO 10.0 MeV

 $(\text{keV m}^{-3}\text{sec}^{-1}/\text{source neutron})$

DELAY TIME (SEC)

2.00E-06-06		2.001E 08
1.00E-06-06	でいますのでです。 40004400041000000000000000000000000000	2.211E 08
5.00E-07 1.00E-06	4004WW44 4 WWW0AR44W44	2.011E 08
3.00E-07		2.234E 08
2.00E-07	0 00000 1440000000000000000000000000000	8.931E 07
.00E 00 - 07	000W400H00V4V000H0400	2.287E 08
DIAL DISTANCE TERVAL (METER	14440000000000000000000000000000000000	100
		TOTAL

TABLE XIX. (Continued)

	neutron)
	source
3 -1	sec
1	B
:	kev

		00	
	000	00000000000000000000000000000000000000	.0
S	2.00E-05 3.50E-05		1.205E 07
ONDARY GAMMA	-05	0000004 04 04 00 00 04 1 0 0 0 0 0 0 0 0	5.652E 07
E 01	0000	00000000000000000000000000000000000000	1.225E 08
00	0.06-0	10000000004044HNNW00000 10004VV0VW0V00VWVV0W40V mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	1.867E 08
7.790E	3.00E	るままままままでできます。また。 の口倒の4下回路のごまごろほの日のごまら	1.980E 08
	A L STANCE	14/4 4 8 8 9 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DEPOSITIO
			TOTAL

67

TABLE XIX. (Continued)
(keV m⁻³ sec⁻¹/source neutron)

	-03	000000000000000000000000000000000000000	
	00	000000000000000000000000000000000000	
	4 4 1 0	000000000000000000000000000000000000	4E
AS		тичмч 00000000000000000000000000000000000	.5
ONDARY GAMM	04 0E-0	00000000000000000000000000000000000000	2E 0
MEV SEC	0 E - 0 4 - 0	00000000000mmr 0000mmnnn	174E 0
00 TO 1:000E	05 0E-0		ш
7.790E	122		.423E 0
	DISTANCE AL (METER	14440000000000000000000000000000000000	DEPOSITIONS
			TOTAL

TABLE XIX. (Continued)

(keV m⁻³sec⁻¹/source neutron)

> 110 100 100 1 1 A	1 000W40N0&V4-HV0A04PW-HP 1 000&V0-MAV-HV-MW-MW-MW-MAV-MW-MW-MW-MW-MW-MW-MW-MW-MW-MW-MW-MW-MW-	.420E 0
11ME (SEC) -50E-03-02	10000000VVVV000V000000 10000000040V0V00V000000 100000000V00V0VV0H00VV 10000000000	::
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10000000000000404044400 100000000000000	. 794
7.790E	000000000000000000000000000000000000	2.011E 03
	444 4890/00000000000000000000000000000000000	DEPOSITIO
		TOTAL

TABLE XX. TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS
RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING
UNIFORMLY IN THE ENERGY INTERVAL FROM 10.0 TO 12.0 MeV

	neutron)
	source
7	sec /
-3	E
	(keV

		000 H000000 HHHHHNNNMMM	
	00 0E	111111111	0
	000	00 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3.728E 08
	5.00E-07 1.00E-06	40000400400400440040000000000000000000	4.200E 08
ME	3.00E-07	000000000000000000000000000000000000000	4.199E 08
DELAY	2.00E-07	14000040 14001440144	4.896E 08
	.00E 00 .	0 0 1 11 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3.563E 08
	DIAL DISTANCE	40440000000000000000000000000000000000	DEPOSITION
			TOTAL

70

TABLE XX. (Continued)
(keV m⁻³ sec⁻¹/source neutron)

		70	
	. 50E-05		547E 0
8	505	000 4444 AMMAAMMAMAAAAAAAAAAAAAAAAAAAAAA	74E
ONDARY GAM!	005 006-05	000 + 6 4 0 8 + 9 8 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1	7.156E 07
TIME	000		1.330E 08
01 TO BEEA	00 E	000WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	2.353E 08
:	3.006-06	0.000000000000000000000000000000000000	2,387
	STANCE	44440000000000000000000000000000000000	RGY DEPOSITION/S
			TOTAL ENE

A CONTRACTOR

TABLE XX. (Continued)

(keV m $^{-3}$ sec $^{-1}$ /source neutron)

	7.00E-04	ы чы 4 и ч о о о о о о о о о о о о о о и и и и и о о о о	1.567E 0
AS	00E-0		815E 0
NDARY GAMM	00E-0		953E 0
MEV SE	0E-04 2.00E-0		. w
01 TO 1+20	005-0		11E (
1.000E	-22	00000 4 404000014 400000000000000000000	1.820E
	ERVAL CHETER	4044 @ OUNT OUNT OUNT OUNT OUNT OUNT OUNT OUNT	DEPOSITION/S
			TOTA

TABLE XX. (Continued)

(kev m $^{-3}$ sec $^{-1}$ /source neutron)

GAMMAS
TO 12-2005 OL MEY SECONDARY GAMMAS
93 MEY
1.200E
1 To
1.000E 01

	00E-0	0.000004 0.004 0.0000000000000000000000	.666E 0
TIME	50E-03 1.50E-0	00000000000000000000000000000000000000	.050E 0
DELA	50E-0		.441E 0
	0000	0000V 430000 4000000V	2.521E 0
	wa	404 0 80 0 W V V O W O W O W O W O W O W O W O W O	DEPOSITION
			TOTAL ENERGY

TABLE XXI. TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS
RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING
UNIFORMLY IN THE ENERGY INTERVAL FROM 12.0 TO 13.5 MeV

 $(\text{keV m}^{-3}\text{sec}^{-1}/\text{source neutron})$

			0 8
	00E-06-	00000000000000000000000000000000000000	55E
	2	0 1 1 0 1 1 1 0 0 0 0 0 1 1 1 1 1 1 1 1	80
	6-06		E 0
	.00E-0	∠4 ® 4 4 4 4 4 4 4 4 4 4 6 8 6 8 6 8 6 8 6 8	
	-	0044400000044440000M4	80
	7 E-0		ш.
	00E-0	4 0 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	ζ.		_
SEC)	119		E 0 8
=	000	1040W0WH0004HH0N0H0W000	526
TIM	3.00	വലഷ്യപ്പെവപ്പവയക്കാനവഥഥ	4
ELA		00000000000000000000000000000000000000	0 8
	2.00E-07		3.601E
	00-	000000000000000000000000000000000000	08
		000000000000000000000000000000000000	.853E
		 	2
	E CHI	4/44/0/0/0/44/0/0/0/0/0/0/0/0/0/0/0/0/0	Z
	15		SIT
	DIAL	1 HHHHUUWW44N0000 1 HU4000UNC0000000	DEP
	AN AN		TOTAL ENERGY
			AL.
			101

TABLE XXI. (Continued)
(keV m⁻³ sec⁻¹/source neutron)

		74	
	00E-0	00004000404040404 000000004040400000000	940E 0
s	505	COP	412
NDARY	0 0 E - 0	00080/000000040WW0410WV 0004W44W04V++++W0V800V 0000W4400000W0W0W0V0W0V0 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	2E
E (SEC)	7.00E-06-0	1000 04 004 014 04 44 00 00 04 0014 014	4
01 TO 1:35	00E-06	000 @4 ORUE 44/00 @/ORUE/U/ 000 44/00 wa4 0/40 @00/44 ii 000 000 ORUE WING 40 000 040 0 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	147E
1,200	6-06 00E-0	миро и на пинити и пинити пин	0E
	WO !	44444000000000000000000000000000000000	Y DEPOSITION
			TOTAL

75

TABLE XXI. (Continued)
(keV m⁻³ sec⁻¹/source neutron)

AN	00E 01 TO 1.350E 01 MEY SECONDARY	E 5.00E-05 7.00E-05 1.00E-04 2.00E-04 4.00E-04 7.00E-04 1.00E-04 7.00E-04	00000000000000000000000000000000000000	SEC 1,240E 05 6.895E 03 1.292E 03 1.784E 03 3,268E 03 9.257E 0
AN		0E-05 7.0	00000000000000000000000000000000000000	40E 05 6
-		ADIAL DISTANCE	44460000000000000000000000000000000000	Y DEPOSITION/SE

and the same

TABLE XXI. (Continued)

	neutron)
	source
-3 -1	sec
'	tev m
:	kev

1.200E 01 TO 1.350E 01 MEY SECONDARY GAMMAS

05-10 0E-0	000000000000000000000000000000000000	.476E
50E-0	✓ 4✓ 4※ 1※ 2※ 3※ 4※ 4※ 4※ 4※ 4※ 4※ 4※ 4※ 5※ 5※ 6※ 7※ 6※ 6※ 7※ 6※ 7※ 7※ 7※ 7※ 7※ 7※ 7※ 7※ 7※ 8※ 9※ 9<td>664E</td>	664E
MM I	CW4 44W4V	44E 0
20	00000000000000000000000000000000000000	58E
VAL CMET	14440000000000000000000000000000000000	DEPOSITION
		TOTAL

TIME-DEPENDENT SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE FROM A POINT ISOTROPIC NEUTRON SOURCE EMITTING UNIFORMLY IN THE ENERGY INTERVAL FROM 13.5 TO 15.0 TABLE XXII.

(keV m^3 sec^1/source neutron)

			8
	2.00E-06	0000440044400404400404 0000440040000000 MUMUMUMUMUMUMUMUMUMUMUMUMUMUMUMUMUMUMU	3.880E (
		00/0/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	4.326E 08
	5.00E-07 1.00E-06	DOUNTINA @000000000000000000000000000000000000	3.810E 08
TIME (SEC)	3.00E-07	OOW/	4.085E 08
DELAY	2.00E-07	1000W4@W00V0V@V4+00	6.359E 08
	.00E 00.2	WV V N N N N N N N N N N N N N N N N N	3.715E 08
	VAL CMETERS	14440000000000000000000000000000000000	DEPOSITION
			TOTAL

- PERSONAL PROPERTY.

78

TABLE XXII, (Continued)
(keV m⁻³sec⁻¹/source neutron)

 	10000で0と9と00のとまる040での 1000040000とよまでも044で4 100000ととなるのであるのでであるのでで 100000とというできるのではあるのでに 100000には、1111111111111111111111111111111	7.443E 05
-05	10000000000000000000000000000000000000	10
ONDARY GAM 1.00E-05-1	1000000440000000440000	4.895E 07
E 01 MEV S TIME (SEC 7.00E-06-0	1008 UN サアスクトとも1000 UN O M + 0 M O M O M O M O M O M O M O M O M O M	
01 TO 1:500 5:00E-06-06	$\begin{array}{c} 1 \circ 0 \circ 0 \circ 0 \circ 0 \circ 0 \circ 0 \circ 4 + 0 \circ 0 \circ 0 \\ 1 \circ 0 & 0 \circ 0 \\ 1 \circ 1$	1.720E 08
100	OUCH	2.481E 08
I STANCE CMETER	14444000000000000000000000000000000000	DEPOSITIO
		TOTAL

79

TABLE XXII. (Continued)
(keV m⁻³sec⁻¹/source neutron)

	m	000000000000000000000000000000000000000	
	000	000000000000WV044WVVW	16
	7.0	HUMMNOHH	•
	110	000000000000000000000000000000000000000	
	00	00000000000000000000000000000000000000	ш
S	4.0	4W4000	-
AMM	40	00000000000000000000	03
ONDARY G	00E-04		1.326E
U	ς.		
SEC)		100000000000000000000000000000000000000	E 03
EAE	00	00000000000	0516
E T I'M	. 00	ดดพดพดสดพ	2
500 LAY			03
HC		00000000000000000000000000000000000000	50E
01 10			6.0
1.350E	. 0	000000000000000000000000000000000000	0 4
1.3	110		77E
	5.00	440WWW-W-WW	8.5
	AC TO THE	000000000000000000000000000000000000000	0N/S
	015		SIT
	IAL ERV	1 4440000 44 00000 40400000000000000000	•
	a-		TOTAL ENERGY
			TAL
			10

TABLE XXII. (Continued)
(keV m⁻³ sec⁻¹/source neutron)

TATOLE NAME

SECONDARY GAMMA-RAY ENERGY DEPOSITION IN AIR VS RADIAL DISTANCE AND NEUTRON SOURCE ENERGY INTERVAL FOR POINT ISOTROPIC NEUTRON SOURCES TABLE XXIII.

(keV m -3/source neutron)

	01 1.840E-01	00000000000000000000000000000000000000	02 3,383E
	6.760E-0	OLUMN 45 HOOMENINGOOU HOO	54
(MEV)	.480E-02	000 04 04 40 00 00 00 00 00 00 00 00 00	3.545E 02
RGY B	9.120E-0		93E 0
URC	03 E		3.606E 02
	1.909E-03	HWHWAHPHONDAPHOHONG BEEN COMPONENT C	m
	IAL DISTANCE FRVAL (METER	14440000000000000000000000000000000000	TOTAL

TABLE XXIII. (Continued)

(keV m 3/source neutron)

SOURCE ENERGY BOUNDS (MEV)	38E 00 1.738E 00 2.232E 00	4 11/2/2/11/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	11E 02 2.570E 02 2.128E 0
	1 8.230E-01 1	000000000000000000000000000000000000	14
	0E-01 5.000E-	04/700000000000000000000000000000000000	347E 02 3.287
	L DISTANCE	144460000000000000000000000000000000000	TOTAL

83

TABLE XXIII. (Continued) (keV m⁻³/source neutron)

	0E10	м ч ч п ч и ч и ч и ч и ч и ч и ч и ч и ч	374E 0
:	0E 10	4 4 L L L L L L L L L L L L L L L L L L	.508E 0
EV)		000244400004770000400 MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM	E
GY GABOUN	000	90044000000004440004440000000000000000	379E 0
SOURCE ENE	000	000000000000000000000000000000000000000	00
	0E0	RNO 4 N 3/3/3/3/3/4 H H H M C R N H C S H C S A C	1.841E 02
	TERVAL (METER	14444000000000000000000000000000000000	TOTAL

(Continued)	
XXIII.	,
TABLE	

(keV m⁻³/source neutron)

SOURCE ENERGY GAMMAS (MEV)			
	350E		3.212E 03
	LAL CHETER	40448000000000000000000000000000000000	TOTAL

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